

REMARKS

Claims 1 to 32 are all the claims pending in the application.

The Examiner has attached to the Office Action a copy of the Form PTO/SB/08 filed with the Information Disclosure Statement of December 2, 2005. The Examiner has initialed and dated this Form to indicate that he has considered and made of record all of the documents listed on this Form, except for JP 53-94581.

In Paragraph 2, at page 2 of the Office Action, the Examiner states that JP 53-94581 has not been considered because an English translation was not submitted with the Information Disclosure Statement.

Applicants disagree with the Examiner's refusal to consider and make of record JP 53-94581. In particular, the Derwent Abstract XP002340196 that was submitted and has been made of record is an English language Abstract of JP 53-094581. Accordingly, the Examiner should have made JP 53-94581 of record. Applicants request the Examiner to make of record JP 53-94581.

Claims 1, 2, 6, 7 and 11-30 have been provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1 to 21, 23-29 and 31-34 of copending Appln. No. 10/577,849.

Since the copending application has not yet been patented, applicants defer responding to this rejection.

Applicants note that they will be filing an Information Disclosure Statement to make of record the prior art cited in the copending '849 application and in copending Application No.

10/490,021.

Claims 1-7, 9, 10, 13, 23 and 26-31 have been rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative under 35 U.S.C. § 103(a) as obvious over JP 10-116605 to Yamada.

Applicants submit that Yamada does not disclose or render obvious the subject matter of the present claims and, accordingly, request withdrawal of this rejection.

Applicants have amended independent claims 1, 24 and 25 to delete the phrase "deposit onto and/or".

The present invention, as set forth in claim 1 as amended above, is directed to a carbon material for forming a battery electrode, comprising carbon powder having a homogeneous structure which is produced by causing an organic compound, serving as a raw material of a polymer, to permeate into carbonaceous particles, and subsequently polymerizing the organic compound, followed by thermal treatment at a temperature of 1,800 to 3,300°C.

Thus, in the present invention, carbonaceous particles are produced by impregnating the particle with a non-polymerized organic compound, such as in a vacuum state or the like, and subsequently polymerizing the organic compound, followed by graphitization. This allows dispersing a graphite crystalline texture and an amorphous texture from the surface to the core of a particle, and the particle has a uniform structure as a whole.

The mechanism is not known. However, while a resin such as a phenol resin generally will not be crystallized by heating, when the resin is very thinly and firmly deposited onto crystalline carbon, and when the crystalline carbon is made into a graphite crystal by heating, phenol resin close to the crystalline carbon is also crystallized. This appears to allow to

provide the particle of the present invention with a uniform structure.

The electrode material of Yamada is produced by depositing thermosetting resin on the surface of sheet-shaped carbon fiber and subjecting it to carbonizing and subsequent pulverization, as disclosed in the Examples of Yamada, and the obtained carbonaceous material has a structure in which a carbide of the thermosetting resin is deposited onto the surface of carbon fiber. Accordingly, the carbonaceous material of Yamada does not have a uniform structure from the surface to the core, but has a structure in which the structure becomes different on the surface and to the core of the particle, and is completely different from that of the present invention. See the present specification at page 15, line 36 to page 16, line 6.

In view of the above, applicants request withdrawal of this rejection.

In Paragraphs 10-16 of the Office Action, the Examiner sets forth seven separate rejections of various dependent claims as being obvious over Yamada alone, or Yamada in view of various secondary references.

The seven rejections are as follows:

- (1) Claim 8 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada.
- (2) Claims 11 and 12 have been rejected as obvious over Yamada in view of U.S. 2002/0160266 to Yamazaki et al.
- (3) Claim 14 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada.
- (4) Claims 15, 18, 19 and 22 have been rejected as obvious over Yamada in view of U.S. Patent 6,447,946 to Nakai et al.

(5) Claims 16 and 17 have been rejected under 35 U.S.C. § 103(a) as obvious over Yamada in view of Nakai et al and further in view of U.S. 5,776,633 to Mrotek et al.

(6) Claim 20 has been rejected under 35 U.S.C. § 103(a) as obvious over Yamada in view of Nakai et al and further in view of U.S. Patent 6,194,099 to Gernov et al.

(7) Claim 21 has been rejected as obvious over Yamada in view of Nakai et al and further in view of U.S. Patent 6,528,211 to Nishimura et al.

Since each of these rejections of dependent claims is based on Yamada as a primary reference, applicants submit that these dependent claims are patentable over Yamada at least for the same reasons as discussed above in connection with the rejection of the independent claims over Yamada alone.

In view of the above, applicants request withdrawal of each of these rejections.

Claim 24 has been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent 5,919,589 to Kawakami et al in view of JP 10-116605 to Yamada.

In addition, claim 25 has been rejected under 35 U.S.C. § 103(a) as obvious over Kawakami et al in view of U.S. 5,776,633 to Mrotek et al, JP 10-116605 to Yamada and further in view of U.S. 6,447,946 to Nakai et al.

The Examiner states that Kawakami et al disclose, at col. 4, lines 52-61, a carbon material that is obtained by the same process as the present invention, except for the last step of thermally treating the carbon material at a temperature of 1800 to 3300°C. The Examiner relies on Yamada for a teaching of heating at a temperature of 2000 to 3000°C, a polymer that is coated onto a carbon material.

As discussed above, Yamada only teach carbonizing a resin on the surface of a sheet-shaped carbon fiber, and do not teach or suggest a process for obtaining a homogeneous structure. Accordingly, one of ordinary skill in the art would not be led to conducting a thermal treatment for Kawakami et al to obtain a homogeneous structure as in the present invention.

In view of the above, applicants request withdrawal of these rejections.

Claims 1, 31, 32 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 2000-319067 to Kawamata et al.

Applicants submit that Kawamata et al do not disclose or render obvious the subject matter of claims 1, 31 and 32 and, accordingly, request withdrawal of the rejection.

Kawamata et al do not disclose a carbon powder having a homogeneous structure which is produced by causing an organic compound, serving as a raw material of a polymer, to permeate into carbonaceous particles, and subsequently polymerizing the organic compound, followed by thermal treatment at a temperature of 1,800 to 3,300°C. Kawamata et al do not appear to employ an organic compound serving as a raw material of the polymer, but instead employ the polymer itself. As stated in the present specification at page 15, line 30 to page 16, line 6, when a polymer itself is employed, the polymer cannot uniformly permeate into the inside of the carbonaceous material as compared with the case that where a polymer-forming raw material is employed, and excellent characteristics cannot be obtained in the resultant electrode material.

In view of the above, applicants request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CUSTOMER NUMBER

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